

MONTHLY NOTICES

OF THE

ROYAL ASTRONOMICAL SOCIETY.

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APRIL 13, 1894.

 No. 6

E. B. KNOBEL, Esq., Vice-President, in the Chair.

Lyndon Bolton, B.A., Patent Office, Chancery Lane, W.C. ;
 F. W. Dyson, M.A., Royal Observatory, Greenwich, S.E. ;
 G. P. Jenkins, Esq., Llangefni, Anglesea, North Wales ;
 W. Redfern Kelly, Mem. Inst. C.E., Dalriada, Malone Park,
 Belfast ;

were balloted for and duly elected Fellows of the Society.

The following were proposed for election as Fellows of the Society, the names of the proposers from personal knowledge being appended :—

The Rev. Thomas Windmill Claridge, M.A., Tamworth,
 Staffordshire (proposed by Rev. Thomas Jones) ;
 David Goudie Simpson, 199 Camberwell Grove, Denmark
 Hill, S.E. (proposed by Gainsford Bruce) ;
 Rev. Ernest Harrison Smith, M.A., R.N., Chaplain and
 Naval Instructor H.M.S. "Tourmaline," North American
 and West Indian Station (proposed by Bertram
 Bennett) ;
 Sir John Benjamin Stone, K.B., The Grange, Erdington,
 near Birmingham (proposed by W. Shackleton).

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Seventy-one presents were announced as having been received since the last meeting of the Society, including, amongst others—

Kiel Observatory publications, no. ix. (E. Lamp, Comet 1891, I.; H. Kreutz, Comet 1873, V., &c.), presented by the Observatory. L. S. Fabry, *Étude sur la probabilité des comètes hyperboliques et l'Origine des Comètes*, presented by the author; Barlow and Bryan, *Elementary Mathematical Astronomy*, third edition; and Briggs and Bryan, *Co-ordinate Geometry*, part 1, presented by the editor.

Remarks on the Best Methods of Determining the Positions of the Planets by Observation. By David Gill, LL.D., F.R.S., Her Majesty's Astronomer at the Cape of Good Hope.

In the *Astronomical Journal*, No. 311 (1894 February 10), Professor Simon Newcomb has called attention to the great accuracy attainable in heliometer measures of the distance and position-angle of planets from selected comparison stars, and of the precision in the resulting places of the planet which may be reached when the comparison stars have been observed on the meridian at many different observatories, and specially when these stars have also been connected by triangulation.

The instance quoted by Professor Newcomb is afforded by the heliometer observations of *Mars* at Ascension in 1877, by which a then unexplained apparent periodic inequality in the motion of *Mars* was detected. This apparent inequality has since been shown to have arisen from an inadvertent error in the computation of the nutation in the special ephemeris of *Mars* supplied by the *Nautical Almanac* office.

Thus, to use Professor Newcomb's words, "a minute inequality, which would never have been noticed in even the best meridian observations, was brought to light, and mapped in a diagram so as to be unmistakable."

Striking as this result may be, the accuracy of the *Mars* observations is very inferior to that realised in the observations of the minor planet *Victoria* in 1889; and, pending the publication of the complete work now in the press, it may not be out of place to give the following illustrations.

It should be mentioned that the exactness of the observations has been the chief cause in the delay of publication. The results of their preliminary discussion (orally communicated to the Society at its meeting on 1893 March 10) showed, on closer examination, that the accuracy of the existing Solar Tables and the employment of seven-figure logarithms in the computation of the ephemeris from the elements were insufficient to respond to the accuracy of the observations.